

## **Effect of different physical activities on neuromuscular system of sprint skiers subject to bioenergetic types of organism**

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### **Abstract**

© Medwell Journals, 2015. One of the essential preconditions of the performance of athletes is the level of the neuromuscular system functional state. The investigation of the neuromuscular system performances subject to bioenergetic types of an organism ensures deeper analysis of psychophysiological state of the sprint skiers after different physical activities. The study was conducted on the 14-16 year-old sprint skiers of I senior category. The first stage of the study included "D&K-TEST". This method allowed identifying the profiles of the sprint skiers and divide them into groups according to the energizing type such as anaerobic, aerobic and mixed. The second stage of the study involved psychological diagnostics. Psychological diagnostic tests were carried out up to load, further-after prolonged cyclic aerobic load for 2 h 50 min up to 3 h and then, after round-robin speed exercise on roller skis with variable speed acceleration and strength load for up to 1.5 h. The results of the sprint skier's psychological diagnostics by bioenergetic type showed that the anaerobic skiers have the most difficulties in enduring the prolonged monotonous exercises than the athletes of aerobic and mixed types. According to psychophysiological studies, one can say that the best type of exercises for anaerobic skiers is speed activities but of limited amount. Both high-speed and long monotonous and strength physical activities are equally suitable for the sprint skiers of mixed type as the psychophysiological studies have shown. According to psychological diagnostics of aerobic skiers, their preference shall be given to low-intensity prolonged physical activities as well as strength loads with a certain influence on the slow muscle fibers.

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### **Keywords**

Aerobic type, Anaerobic type, Bioenergetic types of organism, Mixed type, Neuromuscular system, Sprint skiers